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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,684	12/29/2000	Steven M. Blumenau	E0295/7139 RAS	9139

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EXAMINER	
MCLEAN MAYO, KIMBERLY N	
ART UNIT	**PAPER NUMBER**
2187	

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/751,684	BLUMENAU ET AL.	
	Examiner	Art Unit	
	Kimberly N. McLean-Mayo	2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-66* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,15-21,23-41,43-57 and 60-66* is/are rejected.

7)☒ Claim(s) *14,22,42,58 and 59* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The enclosed detailed action is in response to the Amendment submitted on July 25, 2005.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-13, 15-21, 23-41, 43-57 and 60-66 are rejected under 35 U.S.C. 102(e) as being anticipated by O'Hare et al. (USPN: 6,484,173).

Regarding claims 1, 6-7 and 12, O'Hare discloses in response to a non-media access request (a system call; C 1, L 34-35) by a first of the plurality of devices to a logical device at the shared resource for which the first device has no data access privileges (wherein data access privileges refers to read or write access) (C 10, L 13-14; C 4, L 31-36 - this condition occurs when access control of the system includes read and write operations, along with system calls [C 2, L 3-6] and when system calls are allowed and read/write operations are not allowed from the first device to the logical device at the shared resource; each requesting device is allowed access to certain regions of the shared resource for certain access types, refer to C 10 – C 14; Figure 5 and Figure 6), determining whether the first device is authorized to have non-media access to the logical device, based at least in part, on an identity of the first device (Figure 6, References 216->220-

>224->226->228->230->214; C 2, L 16-30; C 13, L 62-66; C 14, L 49-50) and authorizing the non-media access request when it is determined that the first device is authorized to have non-media access to the logical device (C 2, 25-30; C 14, L 19-22).

Regarding claims 2-3 and 16, O'Hare discloses denying the non-media access request when it is determined that the first device is not authorized to have non-media access to the logical device (C 13, L 57-61; this effectively ignores the request since the request is never processed or executed).

Regarding claims 4 and 17-18, O'Hare discloses forwarding the non-media access request to the physical device corresponding to the logical device (Figure 1, References 34-36; Figure 3; Reference 36; requests are forwarded to the physical device via ports 34-36; C 7, L 31-39).

Regarding claims 5, 24 and 32, O'Hare discloses system calls, which control configuration and operation of the storage system and thus such system intrinsically includes any requests which is related to configuring or operating the storage system and that includes an availability request (C 6, L 30-32).

Regarding claims 8 and 10, O'Hare discloses the elements of claim 1 performed by a filter (security module; C 14, L 22-32) that controls access to a plurality of logical devices (Figure 1, References 24-26) at the shared resource (Figure 1, Reference 22) and further comprising maintaining in a data structure (matrix, Reference 100 in Figure 5) accessible to the filter

configuration information corresponding to the first device wherein the configuration information includes first configuration information identifying each of the plurality of logical devices (W, X, Y, Z) to which data access (access indicated by one of B, C and M which represents data access level) by the first device (one of requestors Q, R, S, T and V) is authorized and whether the non-media access (access indicated by one of B, C and M which represents the non-media access level) is authorized to each of the plurality of logical devices for which the configuration information identifies that no data access is authorized for the first device (C 10, L 21-67; C 11, L 1-32).

Regarding claim 9, O'Hare discloses examining the configuration information corresponding to the first device to determine whether the first device is authorized to have non-media access to the logical device (C 13, L 54-61).

Regarding claims 11 and 23, O'Hare discloses determining whether an access request by the first device is one of a data access request and a non-media access request (C 13, L 54-61).

Regarding claims 13 and 21, O'Hare discloses the storage system performing the operations in claim 12 (Figure 3, Reference 22, 60; C 14, L 22-32).

Regarding claims 15, 19-20 and 25-27, O'Hare discloses maintaining in a data structure (matrix, Reference 100 in Figure 5) accessible to the filter configuration information corresponding to the first device wherein the configuration information includes first configuration information

identifying each of the plurality of logical devices (W, X, Y, Z) to which data access (access indicated by one of B, C and M which represents data access level) by the first device (one of requestors Q, R, S, T and V) is authorized (C 10, L 21-67; C 11, L 1-32); in response to a non-media access request (a system call) by a first of the plurality of devices to a logical device at the shared resource for which the first device has no data access privileges (wherein data access privileges refers to read or write access) (C 10, L 13-14; this condition occurs when access control of the system includes read and write operations and when read and write operation access types are not allowed for the first device to the logical device at the shared resource; each requesting device is allowed access to certain regions of the shared resource for certain access types, refer to C 10 – C 14; Figure 5 and Figure 6), determining whether the first device is authorized to have non-media access to the logical device and authorizing the non-media access request when it is determined that the first device is authorized to have non-media access to the logical device (Figure 6, References 202, 216, 220, 224, 226, 228, 230 and 214; C 12, L 57-65; C 13, entire; C 14, L 1-21).

Regarding claims 28, 33, 38-41, 48, 52 and 57, O'Hare an input to be coupled to the network, wherein the network couples the plurality of devices to the shared resource (Figure 3, Reference 62; C 4, L 18-30); and at least one filter (Figure 3, Reference 64; C 14, L 22-32) coupled to the input (via Reference 62 in Figure 3) that is responsive to the non-media access request by a first of the plurality of devices to a logical device at a shared resource for which the first device has no data access privileges (wherein data access privileges refers to read or write access) (C 10, L 13-14; this condition occurs when access control of the system includes read and write

operations and when read and write operation access types are not allowed for the first device to the logical device at the shared resource; each requesting device is allowed access to certain regions of the shared resource for certain access types, refer to C 10 – C 14; Figure 5 and Figure 6), to determine whether the first device is authorized to have non-media access to the logical device and to authorize the non-media access request when it is determined that the first device is authorized to have non-media access to the logical device (Figure 6, References 202, 216, 220, 224, 226, 228, 230 and 214; C 12, L 57-65; C 13, entire; C 14, L 1-21).

Regarding claim 29, 31, 49 and 51, O'Hare discloses the filter denying the non-media access request when it is determined that the first device is not authorized to have non-media access to the logical device (C 13, L 57-61; this effectively ignores the request since the request is never processed or executed).

Regarding claims 30 and 50, O'Hare discloses a plurality of storage devices (C 5, L 64-67) coupled to the at least one filter, and wherein when it is determined that the first device is authorized to have non-media access to the logical device, the at least one filter forwards the non-media access request to a storage device corresponding to the logical device (C 7, L 48-67; C 8, L 1-24).

Regarding claims 34, 36, 48 and 53-54, O'Hare discloses data structure (matrix, Reference 100 in Figure 5), accessible to the at least one filter, that stores configuration information corresponding to the first device that includes first configuration information identifying each of

a plurality of logical devices (W, X, Y, Z) at the shared resource to which data access (access indicated by one of B, C and M which represents data access level) by the first device (one of requestors Q, R, S, T and V) is authorized and second configuration information identifying whether non-media access (access indicated by one of B, C and M which represents the non-media access level) is authorized to each of the plurality of logical devices for which the first configuration information identifies that no data access is authorized for the first device (C 10, L 21-67; C 11, L 1-32).

Regarding claims 35 and 55, O'Hare disclose the at least one filter examining the second configuration information corresponding to the first device to determine whether the first device is authorized to have non-media access to the logical device (C 13, L 54-61).

Regarding claims 37 and 56, O'Hare discloses examining the access request to determine whether the access request is one of a data access request and a non-media access request (C 13, L 54-61 – determining access request type).

Regarding claims 28, 33, 38-41, 48, 52 and 57, O'Hare an input to be coupled to the network, wherein the network couples the plurality of devices to the shared resource (Figure 3, Reference 62; C 4, L 18-30); and at least one filter (Figure 3, Reference 64; C 14, L 22-32) coupled to the input (via Reference 62 in Figure 3) that is responsive to the a non-media access request by a first of the plurality of devices to a logical device at a shared resource for which the first device has no data access privileges (wherein data access privileges refers to read or write access) (C

10, L 13-14; this condition occurs when access control of the system includes read and write operations and when read and write operation access types are not allowed for the first device to the logical device at the shared resource; each requesting device is allowed access to certain regions of the shared resource for certain access types, refer to C 10 – C 14; Figure 5 and Figure 6), to determine whether the first device is authorized to have non-media access to the logical device and to authorize the non-media access request when it is determined that the first device is authorized to have non-media access to the logical device (Figure 6, References 202, 216, 220, 224, 226, 228, 230 and 214; C 12, L 57-65; C 13, entire; C 14, L 1-21).

Regarding claim 29, 31, 49 and 51, O'Hare discloses the filter denying the non-media access request when it is determined that the first device is not authorized to have non-media access to the logical device (C 13, L 57-61; this effectively ignores the request since the request is never processed or executed).

Regarding claims 30 and 50, O'Hare discloses a plurality of storage devices (C 5, L 64-67) coupled to the at least one filter, and wherein when it is determined that the first device is authorized to have non-media access to the logical device, the at least one filter forwards the non-media access request to a storage device corresponding to the logical device (C 7, L 48-67; C 8, L 1-24).

Regarding claims 34, 36, 48 and 53-54, O'Hare discloses data structure (matrix, Reference 100 in Figure 5), accessible to the at least one filter, that stores configuration information

corresponding to the first device that includes first configuration information identifying each of a plurality of logical devices (W, X, Y, Z) at the shared resource to which data access (access indicated by one of B, C and M which represents data access level) by the first device (one of requestors Q, R, S, T and V) is authorized and second configuration information identifying whether non-media access (access indicated by one of B, C and M which represents the non-media access level) is authorized to each of the plurality of logical devices for which the first configuration information identifies that no data access is authorized for the first device (C 10, L 21-67; C 11, L 1-32).

Regarding claims 35 and 55, O'Hare discloses the at least one filter examining the second configuration information corresponding to the first device to determine whether the first device is authorized to have non-media access to the logical device (C 13, L 54-61).

Regarding claims 37 and 56, O'Hare discloses examining the access request to determine whether the access request is one of a data access request and a non-media access request (C 13, L 54-61 – determining access request type).

Regarding claims 43-47, O'Hare discloses a computer readable medium (C 18, L 36-60) comprising a data structure relating to access management by a plurality of network devices to data stored on a plurality of logical devices of a shared resource, the data structure including a plurality of records each corresponding to one of the plurality of network devices, a first record of the plurality of records corresponding to a first of the plurality of network devices and

including configuration information identifying each logical device of the plurality of logical devices to which data access by the first network device is authorized to have non-media access to a first logical device of the plurality of logical devices when the configuration information corresponding to the first network device identifies that no data access to the first logical device from the first network device is authorized (Figure 5, C 10, L 28-67; C 11, entire; C 12, L 1-33).

Regarding claims 60-66, O'Hare discloses a plurality of storage devices that store a plurality of logical volumes of data (C 5, L 64-67); a data structure to store configuration information identifying whether a first network device of a plurality of network devices [C 4, L 18-30 – when the devices are coupled to the storage via a network, the devices are network devices] that are coupled to the storage system is authorized to access data on a first logical volume of the plurality of logical volumes (Figure 5, Reference 100; C 21-67 ; C 11, L 1-32); and a filter, responsive to the configuration information stored in the data structure, to selectively forward non-media access requests from the first network device to the first logical volume when the configuration information identifies that no data access to the first logical volume from the first network device is authorized (Figure 3, Reference 64; C 14, L 22-32; Figure 6; C 12, L 57-67; C 13, entire; C 14, L 1-21).

Allowable Subject Matter

4. Claims 14, 22, 42 and 58-59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments filed have been fully considered but they are not persuasive.

O, Hare clearly teaches allowing a requestor access to a section of memory, wherein the access may be no access, read only, system calls, etc. (C 5, L 4-8). Furthermore, O'Hare teaches that the different requestors may have different levels of access (C 5, L 8+).

O'Hare discloses that the system may be configured to accept system calls at some or none of the ports (C 6, L 49-52). Figure 5 may explains the operation of the system in general terms, however, the disclosure indicates repeatedly that each host, and its corresponding section of memory in which it has access to, may have different access levels ranging from read only, system call, no access etc., and thus O'Hare makes clear that the system may be configured to operate such that system calls (non-media access) may be allowed to a section of memory where read and write operations [media access] are not allowed.

The below arguments have been repeated to reiterate the above points.

Each host requestor in the system is allowed certain types of accesses [read and write or system calls] to certain regions of memory [refer to C 4, L 35-36], wherein the allowed access types is associated with the host via the host ID in the matrix in Figure 5 [refer to C 2, L 16-30, C 4, L 31-36; C 13, L 62-66, C 14, L 49-50]. Therefore a requestor may NOT have read and write access but MAY HAVE system call access to a particular region of the storage. In the above rejection, claim 1 for example, is rejected based upon this scenario, the relevant language states

"..for which the first device has no data access privileges (wherein data access privileges refers to read or write access) (C 10, L 13-14; C 4, L 31-36 - this condition occurs when access control of the system includes read and write operations, along with system calls [C 2, L 3-6] and when system calls are allowed and read/write operations are not allowed from the first device to the logical device at the shared resource; each requesting device is allowed access to certain regions of the shared resource for certain access types, refer to C 10 – C 14; Figure 5 and Figure 6). Thus O'Hare does teach authorizing a non-media access request to a logical device from a device that lacks data access privileges.

Additionally, a system call does not perform read and write operations [refer to C 1, L 34-35], as admitted by the Applicant in the After Final Amendment submitted on May 27, 2004 entered in the record via the RCE submitted on July 27, 2004, "Applicants mistakenly characterized the system calls of O'Hare as performing both administrative operations and data accesses (i.e., read and write operations). For this reason, Applicants argued that a system call does not meet the definition of Applicants' claimed non-media access request. Upon reconsideration in preparing this response, the undersigned now believes that O'Hare does not disclose system calls that directly read and write data, but rather only those that perform administrative-like operations (0'Hare, col. 1, lines 29-36). Thus, Applicants withdraw any assertion that the system calls of O'Hare perform read and write operations..".

The system call may instruct the host to perform an activity that requires the host to perform a SUBSEQUENT read and write operation.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly N. McLean-Mayo whose telephone number is 571-272-4194. The examiner can normally be reached on Mon (10-4), Tues, Thu (10-2), Fri (10-6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on 571-272-4201. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KIMBERLY MCLEAN-MAYO
PRIMARY EXAMINER

Kimberly N. McLean-Mayo
Primary Examiner
Art Unit 2187

KNM

October 3, 2005